PREVALENCE OF PSYCHIATRIC MORBIDITY IN POSTNATAL MOTHERS

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CERTIFICATE

This is to certify that the study entitled **"The Prevalence of Psychiatric Morbidity in Postnatal Mothers"** is the bonafide work done by **Dr. K. SUMATHY,** at the Institute of Obstetrics and Gynaecology, Govt. Hospital for Women and Children attached to the Madras Medical College, Chennai from 2006-2008.

This Dissertation submitted to Dr. M.G.R. Medical University is in partial fulfillment of the University Rules and Regulations for the **Award of M.D. Degree in Obstetrics and Gynaecology.**

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CONTENTS

INTRODUCTION

Pregnancy is most often viewed from physiological perspective view because of the dramatic physical changes that occur from conception through the pregnancy, delivery and during the immediate postpartum period. The primary focus of the pregnancy as viewed by the health care providers, friends and family of the expected parents centered mainly on women's physical changes and health status (Elaine Z Welling, 1998).

What remains to be highlighted is, pregnancy is clearly one of the most profound psychological event in human life. It is an ultimate psychosomatic experience (Donald Sloan Johnson, 1994).

Pregnancy and puerperium are sufficiently stressful to provoke mental illness. Such illness may represent the recurrence or exacerbation of a pre existing psychiatric disorder or it may be the onset of a new disorder. The department of Health and Human services has reported that 1 of every 8 persons will suffer from a depressive disorder and that the rate is almost doubled for women (Depression Guideline Panel, 1993).

Unfortunately depression is appropriately treated in fewer than a fourth of affected women. (American College of Obstetrician and Gyanecologists, 1993 a). The under recognition of depression frequently occurs in primary care settings where most medical care is obtained. Similarly, women who

suffering from postpartum depression are often not properly identified and treated.

While Pregnancy often evokes overwhelming joy, it is also stressful for most women. In some women with ambivalent feelings about the pregnancy, stress may be appreciably increased (Williams 21st edition).

There is evidence of non significant increase in the incidence of anxiety and depressive syndromes in the first and third trimester (Gotlib et al, 1989).

Emotional well being influence the physical well being and any plan for this women's health during pregnancy must include an assessment of her psychological response.

Postpartum depression, a potentially serious public health problem can be effectively treated. With the implementation of universal screening with a self administered screening tool, in conjunction with appropriate education and training of health care providers to increase awareness of this problem and to impart greater diagnostic suspicion, identification of and early intervention for PPD can be facilitated.

There is need for increased collaboration between obstetrician and psychiatric services, with particular emphasis on the prevention of Psychiatric Morbidity associated with pregnancy, thereby improving the quality of life and interaction between mother and child.

REVIEW OF LITERATURE

In reviewing the literature many studies have focused the prevalence of psychiatric problems in postpartum period and various socio demographic, obstetrics, general physical variables associated with postpartum psychiatric morbidity.

Sutter AL, Bourgeois M 1994 did a study on emotional and psychiatric postpartum complications. Prevalence of puerperal depression was 10-20% and puerperal psychosis was about 0.2% in that study.

Klein MH, Essex MJ 1995 did a study on the effect of overlap between symptoms of depression and somatic complaints of pregnancy. This study suggested that emotional and psychological consequences for the individual changes are more common with teenage pregnancy.

Kac G, Silveira EA *et al* 2006 did a study on factors associated with minor psychiatric disorders among women selected from a health care center in Rio de Janeiro, Brazil. His study concluded that low income and obesity were potentially associated with minor psychiatric disorders.

Irfan N, Badar A 2003 studied the determinants and Pattern of Postpartum Psychological disorders in Hazara division of Pakistan. A number of (65%) stressors were identified in the study. The majority of patients were young (20-31 years), illiterate (80%), having past history of depression (70%), house wives (95%), from rural area (65%), highly religious (60%), poor (90%), with husband away from job (70%), primipara (80%) and with a live baby born (70%).

Blackmore ER, Jones I *et al* 2006 investigated the obstetric variable like primiparity, pregnancy complications, delivery complications, caesarian section, female baby, preterm delivery in 129 women with bipolar affective puerperal psychosis. This study provides further evidence of the association between primiparity and puerperal psychosis.

Bergent A, Nguyen T 1998 studied the prevalence and influencing factors of early postpartal depressive disorder. They concluded that higher subjective burden of child birth, higher trait anxiety, poorer couple compatibility, lower job satisfaction and lower social status are the risk factors for the development of an early postpartal depressive disorder. Among the obstetric variables previous abortion, elevated pregnancy risk, low birth weight of new born and caesarian section were significant influences.

Lee DT, YipAS 2000 did prospective longitudinal study among Hongkong Chinese women to identify the women at risk of postnatal depression. They identified that postnatal depression was more likely if the spouse was disappointed with the gender of new born.

Hand IL, Noble L 2006 did a study at the Bronx Lebanon Hospital centre and interviewed 52 postnatal mothers whose infants were admitted in neonatal ICU. This study did not report significantly higher psychiatric symptomatology in mothers whose infants were admitted in neonatal ICU.

Owoeye AO, Aina OF 2006 studied 252 women for postpartum depression in a maternity Hospital at Lagos, Nigeria. The risk factors for PPD

were found to be mainly psycho social including unwanted pregnancy, unemployment and marital conflict.

Bell AJ, Land NM 1994 did the study on long term out come of postpartum psychiatric illness requiring admission. In that past psychiatric history was confirmed as an important prognostic indicator in postpartum illness.

Ho-Yen SD, Bondevik GT 2007 studied the factors associated with the depressive symptoms among the postnatal women. Analysis showed that the depression was strongly associated with husband's alcoholism, polygamy, smoking and previous depression. There was non significant trend of lower depressive score among women living in arranged marriages and traditional family structures.

Kumar 1982, Kitamura et al-1993 research suggest that mental disorders are more common in pregnant women who have personal and family history of depressive disorder.

PSYCHOLOGICAL RESPONSE TO PREGNANCY

Pregnancy fulfills the deepest and most powerful wish of a woman on expression of creative and self realization (Deutch 1945). It has been said that pregnancy confirms the women's sexuality and ability to reproduce her femininity and self esteem.

Adjustment & alteration of pregnancy and puerperal period is most important and influence all aspect of her life.

Pregnancy has been described as a maturational (or) developmental life crisis (Lederman 1984 and Tilden 1980). Pregnancy is a critical period in which emotional situations in life cycle alter one's equilibrium resulting in the initiation of coping mechanism to adapt. A sense of crisis occurs if coping mechanism doesn't work (Bibtring 1959, Caplan 1957).

The stages of psychological adaptation to an intended pregnancy are not well understood. Both men and women who desire a pregnancy initially tend to feel empowered when it is achieved. However, as the pregnancy progresses and the realities of how life will be altered emerge, ambivalence develops. This is normal psychological response to a major life transition.

During the early stages of pregnancy, concerns tend to focus on bodily adjustment – how to cope with morning sickness, breast tenderness, changes in physique, sexuality, diet and exercise. Throughout pregnancy, the pregnant women must adapt to changes in both physical and psychological boundaries. As the pregnancy advances, concerns shift to finances, the baby's room, and material needs, employment issues and capacity for parenthood.

The first pregnancy heralds a new life stage for both parents, but attention generally has focused on the developmental issue of the expectant mother. Pregnancy is seen as a maturational event that allows consolidations of gender identity and provides an opportunity to nurture the next generation.

The psychological energy required to deal with issues of identification and differentiation in conjunction with profound metabolic and Hormonal changes may lead to emotional lability, introspection, anxiety or a desire for

increased contact with one's parents. The age, life stage and circumstances of the pregnant woman undoubtedly affect adjustment, but pregnancy is universally associated with concerns about adequacy during gestation and delivery and as a caregiver. In consolidating her identity, the woman must negotiate issues of autonomy, dependence and sexuality. Past adjustment and current support play critical roles in determining outcome of this pivotal developmental event.

MATERNAL ADAPTATION IN PREGNANCY

Women's psychology becomes focused on the pregnancy stage and life become a new experience centered around the major changes that are occurring (colman and Colman 1991).

Pregnancy possesses a series of necessary steps and adaptation that prepare the women and her partner for the birth of baby and role of parenting (Lederman 1984, Rubin 1984 and Tanner 1969).

Tanner identified three developmental tasks parallel to the 3 trimesters of pregnancy.

1. Accepting the fetus as a part of the body.
2. Perceiving the fetus as a separate being not as an extension (or) Integral part of oneself.
3. Establishing a care taking relationship with the infant.

Another psychological characteristic of early pregnancy is increased emotional lability (Jeffee 1989, Lederman 1984).

Lederman 1984 identified the ways to evaluate the degree of acceptance of pregnancy.

1. Whether women consciously plan and want the pregnancy or the pregnancy could be motivated by the family and community pressure.
2. Whether the woman is happy or depressed during pregnancy, all women may experience short period of depression. But if it occurs consistently throughout pregnancy, it may be caused by fears about labour and birth, anxiety about motherhood etc.
3. Prevalence of physical symptoms may be related to the desire for pregnancy, amount of anxiety during pregnancy and the general emotional well being of a woman. When the pregnancy is accepted, the discomfort of pregnancy tends to be perceived as minor imposition and measures to relieve them usually have some success. Depression in early pregnancy is determined mainly by psychological factors (Kitamura 1996).

STRESS IN PREGNANCY

Selye 1976 defined stress as the nonspecific response of the body to any demand (or) stimulus.

While pregnancy often evokes overwhelming joy it is also stressful for most women. In some women with ambivalent feelings about the pregnancy, stress may be appreciably increased. Response to stress may be seen in variety of subtle (or) non subtle ways. For women whose fetus is at higher

risk for congenital malformations, stress is increased (Tunis and Golbus 1991).

Throughout pregnancy and especially towards term anxiety develops about child care and lifestyle changes that will ensue after delivery. In many women, fear of labour pain is particularly stressful. Pregnancy experience may be altered by medical and obstetric complications. Burger and Colleagues 1993 have shown that women who suffer complicated pregnancy are twice as likely to have fear for their fetus (or) to become depressed.

The stress response can be influenced by conditions such as age, diet, climate, heredity, marital status, education, social support and past exposure to stress.

Coping strategies for stress may be categorized as affective (emotional), cognitive (information) and Instrumental (Tangible). The relaxation techniques that can be used are controlled breathing, social and volunteer group support, hobbies and exercise. These will be helpful to manage the stress during pregnancy.

Leung SS, Martinson IM 2005 conducted research in postpartum depression and related psychosocial variables. The major predictors were antenatal depression, postnatal perceived stress and child care stress. They benefit from a culturally appropriate intervention focused on reducing the stress in postpartum period.

Hung CH 2007 conducted a study to examine the postpartum stress, depression, social support over the first 6 weeks following discharge from

Hospital after child birth. The study showed that three items " the baby getting sick suddenly", " the unpredictability of the baby schedule" and " the flabby flesh of my belly" were consistently perceived as postpartum stressors by women.

EFFECT OF SOCIAL SUPPORT ON PREGNANCY

Social support can buffer the effect of life stress and anxiety during pregnancy (Brown 1987 and Coronwell 1985).

Morbeck and Anderson 1989 examined the role of social support in enhancing the individuals' sense of well being during pregnancy and puerperium. The average social network for woman in her sample was 8.5 members, most of whom were relatives. Emotional support was the type of support most frequently received by both mother and father.

Morberk and Tielands 1983 found that women with high stress before pregnancy and less social support have the highest rate of gestation and infant complications.

Logsdon MC, Usui W 2001 conducted a study on psychosocial predictors of postpartum depression and concluded the importance of social support, support from and closeness to partner were significant predictors of both self esteem and depression.

It is interesting to note that women experiencing a normal pregnancy may receive more social support than high risk pregnancy, because, her pregnancy makes fewer demands on others and follows the course expected by the society (Richardson 1987, Synden 1979) found that the amount of

perceived social support may increase the adaptation and promote healthy relationship.

The positive social support can influence the help seeking behaviour, decrease pregnancy complications and enhance the adherence to health practices, which will be beneficial to fetal growth and development as well as health of pregnant woman (Aaronson 1989).

HORMONAL CHANGES AND MOOD IN THE PUERPERIUM

Postpartum period entails multiple physiological and psychological adjustments. Estrogen and progesterone concentration decline precipitously, adrenal secretion of cortisol is altered, loss of placental hormones change metabolism profoundly and many new psychological changes exist.

It is worth reviewing the current place of hormonal theories in the production and maintenance of puerperal psychiatric disorders. Support for the role of hormonal factor in puerperal psychosis comes from an interesting case report of psychosis following a hydatiform mole (Hopker SW, Brockington IF 1991).

Disturbed thyroid function is associated with variety of psychiatric symptoms. Lability of mood and anxiety symptoms can occur with hyperthyroidism & Lethargy, mood changes and poor concentration with hypothyroidism. It has been estimated that 10% of women with postnatal depression have postpartum thyroid disturbances indicated by either abnormal T3 or T4 levels or by the presence of thyroid antibodies (Harris B 1993 Br J Psychiatry).

Receptors for progesterone and estrogen are widely distributed throughout the central nervous system. They have multiple, complex and profound effects on brain structure and function including neurogenesis, synaptogenesis, neural growth, migration and differentiation and on brain gender dimorphism and behaviour (Pilgrim C, Hutchinson JB *et al* 1994).

The precipitous drops in levels in the days immediately following child birth have been postulated for corresponding mood changes. However, no association between changes in hormone level and postnatal depression have been found. It may be that some women have an abnormal response to normal changes. A recent study showed a modest association of progesterone changes in the early postpartum period and the maternity blues, but not depressive illness (Harris B et al 1994).

Oestrogen's effect on mental state has been demonstrated by number of studies. Trials of estradiol have shown improved mood in the premenstrual syndrome and menopause. A recent study demonstrated a significant improvement in postnatal depression using estrogen patches compared with placebo. (Gregoire AJP, Kumar R 1995)

Diurnal variation in cortisol levels persist during pregnancy while overall levels rise to 34 times than their normal levels returning to normal by 2 weeks postpartum. (Harris B, Lovett L 1976) conducted a study and found an association between lower evening cortisol and depression at 6 weeks.

No evidence of association between prolactin & oxytocin and postnatal depression has been found.

Research indicate that psychosocial stressors may sensitize the brain to subsequent metabolic or hormonal changes and vice versa.

ROLE OF NEUROTRANSMITTERS IN PSYCHIATRIC MORBIDITY

After nearly 30 years of research it can be concluded that subsets of depressed people manifest one or more abnormalities of monoamine neurotransmission.

Nucleus accumbens, the amygdala, the anterior caudate nucleus, and the anterior cingulate gyrus of the cortex, all of which are powerful behavioral control centers.

Norepinephrine secreting neurons are located in the brain stem, especially in the locus ceruleus, these send fibers upwards to most parts of the limbic system, the thalamus and the cerebral cortex.

Serotonin producing neurons are located in the mid line raphe. Nuclei of lower pons and medulla also project fibers to many areas of the limbic system.

A principal reason for believing that depression is caused by diminished activity of norepinephrine and serotonin.

Psychosis results from excessive functioning of a group of neurons that secrete dopamine. These neurons are located in ventral tegmentum of mesencephalon medial and superior to the substantia nigra.

MENTAL DISORDERS ASSOCIATED WITH PEURPERIUM

DSM-IV-TR (Diagnostic and statistical manual of mental disorder) Traditionally subdivided the disorder of puerperium into 3 categories.

1. Maternity blues
2. Postnatal Depression
3. Puerperal Psychosis

	Maternity Blue	**PN depression**	**Peurperal Psychosis**
Incidence	30-80%	10-15%	0.2%
Onset after Childbirth	2-10day	about 2 weeks	about 2 weeks
Management	Support and Education	Brief Cognition therapy, counselling & Antidepressive Medication	Admission, education antidepressants Mood stabilizers Antipsychotics, ECT

The ICD-10(International statistical classification of diseases and related health problems) classify the mental & behavioral disorders in puerperium (commencing within 6weeks of delivery).

ICD-10 assumes that most patients with puerperal mental illness are not distinguishable from patients with mood disorders (or) schizophrenia. When this is not possible, the diagnosis of “mental and behavioral disorders associated with puerperium, not elsewhere classified” is given.

In typical depressive episode, the individual usually suffers from

1. depressed mood
2. loss of interest & enjoyment
3. reduced energy leading to increased fatiguability and diminished activity
4. marked tiredness after slight effort

The other common symptoms are

1. reduced concentration and attention
2. reduced self esteem and self confidence
3. ideas of guilt and unworthiness
4. bleak and pessimistic views of the future
5. ideas (or) acts of self harm (or) suicide
6. disturbed sleep
7. diminished appetite

for depressive episodes of all three grades of severity, a duration of atleast 2weeks is usually required for diagnosis but shorter periods may be reasonable if symptoms are unusually severe and of rapid onset.

Three grades of severity of depressive episode mild, moderate and severe episode.

Mild depressive episode

This patient should have atleast two of the typical symptoms and at least two of the other common symptoms. Minimum duration of the whole episode is about 2weeks. An individual with mild episode is usually distressed by the symptoms and has some difficulty in continuing with ordinary work and social activities but will probably not cease to function complete.

Moderate depressive episode

This patient should have atleast two of three most typical symptoms plus atleast three and preferably four of the common symptoms. Minimum duration of the whole episode is about 2weeks. These individuals will have considerable difficulty in continuing with social work (or) domestic activity.

Severe depressive episode

All of the typical symptoms plus atleast four other symptoms, some of which should be of severe intensity. The depressive episode should usually last for at least 2weeks but if the symptoms are particularly severe and of very rapid onset, it may be justified to make this diagnosis even when less than 2weeks.

The diagnosis of psychotic symptomatology includes delusions, hallucinations, disorganized speech, grossly disorganized or catatonic behavior.

RISK FACTORS FOR POST POSTPARTUM MENTAL ILLNESS

Risk factors for PPD include

1. Personal (or) family history of depression
2. condition such as Bipolar disorder(PMDD), severe premenstrual Syndrome (TMS) and Premenstrual Disphoric Dirsorder (PMDD) other risk factors include

Emotional changes

The demands of caring for a baby coupled with sleep deprivation can lead to frustration and depression. Other emotional influences that may contribute include.

1. Identity crisis

Some women have difficulty in reconciling their new role as mother as compared to their identity prior to giving birth.

2. Childbirth difficulties

Medical complications and other factors can make it difficult to care for a baby.

3. Unrealistic expectation

Some women worry about being perfect mothers. Feelings of being unattractive, over whelmed or out of control.

Lifestyle changes

Some circumstances following birth can lead to anxiety and depression such as

1. Baby with greater than average needs
2. Medical problems following childbirth
3. Fatigue from caring for a baby (or) multiple children
4. Poor education about child caring techniques
5. Financial problem
6. Child care concerns
7. Lack of support from family and friends
8. Difficulty with breast feeding
9. Relationship problems
10. Major life changes(eg:changes in career ,moving)

Other factors that may increase the risk of PPD are

- History of pregnancy (or) delivery complication
- Marital conflict
- Lack of perceived support from family, friends and others
- Living without a partner
- Stress related to child care issues

- Unplanned pregnancy
- Previous miscarriage
- Lack of emotional (or) financial support from spouse (or) partner

POST PARTUM BLUES

This is mood disturbance experienced by approximately 50-80% of women within 3-6 days after Parturition (Kendel and colleagues 1987), which spontaneously resolves by day 10 postpartum. There is evidence that blues are precipitated by progesterone withdrawal (Harris and coworkers 1994).

Although a variety of symptoms have been assessed core features include insomnia, weepiness, depression, anxiety, poor concentration, irritability and affective ability. They may be transiently tearful for several hours and then recover completely only to be tearful again the next day. Importantly symptoms are mild and usually only last between few hours to a few days .There is some evidence of association between this brief dysphoric reaction and later more prolonged postpartum depression. The treatment of the postpartum blues should include psycho education, validation of the mothers experience and careful monitoring for worsening (or) prolongation of symptoms that may indicate the development of full blown mood (or) anxiety disorder.

POSTPARTUM DEPRESSION

Postpartum depression is a mood disorder similar to other major and minor depression that develops anytime in life. It typically occurs from three

days to six weeks after child birth. But can develop anytime within the first year. Prevalence of depressive disorder is about 10-15% in the 6 months postpartum (o'hara & Zekowshi 1998).

Symptoms of postnatal depression includes depressed mood, loss of interest and enjoyment and reduced energy leading to increased fatigability and diminished activity. Other common symptoms are reduced concentration and attention, reduced self esteem & self confidence. Ideas of guilt and unworthiness bleak and pessimistic views of the future, ideas (or) act of self harm (or) suicide, disturbed sleep and diminished appetite.

Atypical presentation such as anxiety, distress, motor agitation may be more prominent at times than the depression (pit 1968). Anxiety may be focused on the well being of the baby with negative thinking of personal inadequacy. A duration of atleast 2 weeks is usually required for diagnosis. Vegetative symptom of depression including loss of libido are frequent. Sleep disturbance is common but masked as consequence of infants lacking circadian rest activity cycle. Physical features resembles those seen in hypothyroidism such as cold intolerance, fatigue and slow mentation have also been reported (Harris 1993).

O' Neill T, Murphy P et al suggest that past psychiatric history was found to be very significant risk factor. They conducted a study in 142 women at six weeks postpartum who were asked to complete the Edinburg postnatal depression scale. 38 scored positive for depression 28 of these were followed up by psychiatrist and compared with 28 controls. They found definite association between past psychiatric history and post natal depression.

There are empirical studies that support a purtative role of sex hormones in the onset of Post natal depression (Bloch M et al 2006) examined the association between the reported history of psychiatric symptoms of possible hormonal etiology and very early postpartum depressive symptoms. They found association between some risk factors of possible hormones related etiology such as Premenstural dysphoric disorder & third trimester mood symptoms and early postpartum mood symptoms may indicate vulnerability to subsequent PPD. (Harris 1993, Pederson 1993, Steiner 1996) comments that it is likely that women at risk of postnatal depression shows an idiosyncratic individual reaction to postpartum hormone changes rather than an abnormal pattern of changes per se.

Ethnographic studies highlight the potential role of psychosocial factors (Boyce P, Hickey A 2005 conducted a study in psychosocial risk factor major depression after child birth. A significantly increased risk for postnatal depression was associated with a) being 16 years old or younger, b) past history of psychiatric illness, c) experiencing one or more life events, d) marital dissatisfaction, e) experiencing unsatisfactory social support, f) vulnerable personality g) having a baby of non desired sex. This study confirmed that psychosocial risk factors predominantly in the areas of social support and personality style are closely associated with postnatal depression.

There is no evidence that obstetric complications are associated with postnatal depression. 20-25% of severe maternal blues may experience severe postnatal depression (Cox 1992).

Supportive treatment alone is sufficient for minor depression but major depressive episodes require pharmacological intervention. Affected women should be managed in conjunction with psychiatrist treatment, options include anti depressant, anxiolytic agent and electro convulsive therapy. Treatment also include monitoring for thoughts of suicide or infanticide, emergence of psychosis and response to treatment.

POSTPARTUM PSYCHOSIS

Postpartum Psychosis is the most worrisome and severe puerperal mental disorder distinguished from other postpartum disorders by the incidence, onset, nature & severity of symptoms. It is estimated to occur in 1 to 4 of 1000 births (Weissman and Olfson, 1995). Prevalence of Psychosis is 0.2% according to the study of (sutter AL, Bourgeosis *et al* 1994).

In the DSM IV- TR the diagnosis of Brief psychiatric disorder with Postpartum onset is given when psychosis occurs within 4 weeks of delivery and mood symptoms are not present. The ICD-10 gave the diagnosis of “mental and behavioral disorders associated with puerperium not elsewhere classified is given.

The peak onset of psychotic symptoms is 10-14 days after parturition but the risk remains high for months after delivery (Brockington and Colleagues 1991).

The most important Risk factor for developing postpartum psychosis is previous history. The risk of puerperal relapse is as high as 70%. Personal (or) family history of mental disorder appears to be the most rubbest predictor.

In some studies risk is higher in women with history of bipolar disorder as compared with unipolar disorder. Other risk factors which are biologically related include younger age, primiparity and family history of psychiatric illness.

Agrawal P, Bhatia MS et al 1997 conducted a clinical study of postpartum psychosis. They found positive correlation between the birth of female child and psychosis and increased risk of developing psychosis after the birth of the first child.

Poor socio economic environment might contribute the development of postpartum psychosis (Nager A, Johansson LM et al 2006). There is no clear evidence that obstetric complications during pregnancy or delivery will increase the later development of psychosis (YunY, Phillips *et al* 2005).

The clinical presentation of postpartum psychosis varying from affective schizophrenia to acute organic psychosis. Affective syndromes constitute about 80%. As many as half of the affected cases present with features of mania. Although the symptoms of postpartum psychosis like delusion, hallucination, disorganized speech & catatonic behaviour is similar to schizophrenic syndrome, it will not persist for six months, hence not meeting the current diagnostic criteria for schizophrenia.

Worsening insomnia is common prodromal symptom of post partum psychosis. Psychomotor agitation may also be an early manifestation. However, the most notable features of postpartum psychosis are liability of mood, behaviour and psychotic symptoms. Affective states may shift

dramatically from elation to depression over the period of hours. Psychotic symptoms may reappear suddenly after a week or more of apparent remission. Paranoid delusion about family member or neighbourhood and abnormal ideas about the baby which appears to be very intense. In some, clinical presentation will be corresponding to non puerperal psychosis. Although, suicide and infanticide are rare suicical and infanticidal ideation may be significant problem (Bluglass 1978).

Although exact etiology of postpartum psychosis is not known. Biological rather than psychosocial factors appear to play a key role in development of postpartum psychosis (Dowlatashi & Pajkel 1990). Current models focus the importance of Hormonal etiology in psychosis. Reduction in serum estrogen (a hormone with anti dopaminergic effect) after delivery is associated with development of post synaptic dopamine receptor supersensitivity, which might precipitate onset of psychosis in vulnerable individuals (Deakin 1988, Weick et al 1991).

The course is variable and depends upon the underlying illness. For those with manic depressive and schizoaffective psychosis the time to recovery is about 6 months (Snedden 1992). The clinical course of Bipolar illness and schizoaffective disorder in puerperal women is comparable to that of nonpuerperal women. The severity of postpartum psychosis mandates Hospitalisation, education, mood stabilizer, anti psychotic and electroconvulsive therapy.

Although postpartum psychosis has an excellent prognosis it also has high recurrence rate and can be associated with subsequent non puerperal episodes.

AIM & OBJECTIVES OF THE STUDY

Aim

To evaluate the prevalence of psychiatric morbidity in postnatal mothers who had been delivered in Maternity Hospital, Egmore, Chennai.

Objectives

- To study the prevalence of psychiatric morbidity among the postnatal mothers.
- To study the prevalence of postpartum depression among the postnatal mothers.
- To study the prevalence of postpartum psychosis among the postnatal mothers.
- To study the effect of socio demographic variable with psychiatric morbidity in postnatal mothers.
- To study the effect of General physical and obstetric variable with psychiatric morbidity in postnatal mothers.

HYPOTHESIS

1. Prevalence of psychiatric morbidity is common among the postnatal mothers.
2. Prevalence of postpartum depression is common among the postnatal mothers.
3. Prevalence of postpartum psychosis is not common among the postnatal mothers.
4. Prevalence of psychiatric morbidity depends on sociodemographic variables like age (teenage pregnancy), sex of baby (female), religion, educational status (illiterate), spouse occupation (unskilled worker), type of marriage (love), type of family (nuclear), habit of spouse (alcohol and tobacco), previous psychiatric illness, family history of illness.
5. Prevalence of psychiatric morbidity depends on obstetric variables like Gravida (primi), AN visit (unbooked), Previous obstetric history (abortion), mode of delivery (caesarian section).
6. Prevalence of psychiatric morbidity doesn't depend on the obstetric variables like baby condition at birth.
7. Prevalence of psychiatric morbidity depends on general physical variables like obesity.
8. Prevalence of psychiatric morbidity doesn't depend on the general physical variables like height, Hb status and blood pressure.

MATERIALS AND METHODS

1. SITE OF STUDY : The Study has been carried out in Maternity Hospital, Egmore.

2. PERIOD OF STUDY : March 2007 to August 2007 (six months).

3. DESIGN OF STUDY : Descriptive study.

4. SELECTION OF SAMPLE : 500 postnatal mothers who delivered in Maternity Hospital, Egmore.

5. INCLUSION CRITERIA :
   i. All patients delivered at Egmore Maternity Hospital with Tamil as mother Tongue.
   ii. Patients who have given written informed consent for study.

6. EXCLUSION CRITERIA :
   i. Patients with medical complications like
      a. chronic hypertension
      b. diabetes mellitus
      c. hypothyroidism
      d. epilepsy
      e. chronic liver disease
      f. bronchial asthma
   ii. Patients with severe obstetric complications like
      a. severe anemia
      b. severe PIH
      c. AP eclampsia, PP eclampsia
      d. GDM complicating pregnancy
      e. Heart diseases complicating pregnancy
      f. APH & PPH
   iii. Patients who are not willing to give consent for study

7. TOOLS USED
   1. Self innovated proforma
   2. ICD -10 diagnostic criteria
   3. Hamilton Depression rating Scale (HDRS)
   4. Brief Psychiatric rating scale (BPRS)

ICD – 10 DIAGNOSTIC CRITERIA

The ICD – 10 classification of mental and behavioral disorder, WHO Geneva 2002 describes typical depressive individuals suffer from depressed mood, loss of interest and enjoyment, and reduced energy leading to increased fatiguability and markedly diminished activity. Other common symptoms are reduced concentration and attention, reduced self esteem and self confidence, ideas of guilt and unworthiness, bleak and pessimistic views of the future, ideas or acts of self harm or suicide, disturbed sleep and diminished appetite.

The classification of ICD-10 mental and behavioural disorders are:

i. mild mental and behavioural disorders associated with puerperium, not elsewhere classified

   includes: Postpartum depression NOS

ii. severe mental and behavioural disorders associated with puerperium, not elsewhere classified

   includes: Puerperal psychosis NOS

iii. other mental and behavioural disorders associated with the puerperium, not elsewhere classified.

iv. Puerperal mental disorder, unspecified.

HAMILTON RATING SCALE FOR DEPRESSION:

The Hamilton Rating Scale for Depression (HAMD, HRSD) developed by M. Hamilton, is the most widely used rating scale, consisting of 17 to 21 items rating is based on clinical interview, plus any additional available information such as nursing or family member report. The items are rated on either 0 to 4 spectrum or 0 to 2 spectrum.

The HAM-D also relies quite heavily on the clinical interviewing skills and the experience of rater in evaluating individual with depressive illness. As most patients score zero on rare items in depression (depersonalisation, obsessional and Paranoid symptoms). The total score on the HAM-D generally consists of only the sum of first 17 items. The strength of HAM-D is its excellent validation / research base, and ease of administration . Its use is limited in individuals who have psychiatric disorders other than primary depression.

BRIEF PSYCHIATRIC RATING SCALE (BPRS)

The BPRS developed by JE overall and DR Gorham is a very widely used, relatively brief scale that measures Major psychotic and nonpsychotic symptoms in individuals with a major psychiatric disorder, particularly schizophrenia. The 18 items BPRS is perhaps the most researched instrument in psychiatry, strengths of the scale include its brevity, ease of administration, wide use and well researched status.

PROCEDURE OF STUDY

Complete description of the study was informed to the patient and consent was obtained. All women were interviewed to check the symptoms explained in ICD-10 diagnostic criteria. They were again interviewed 2-3 weeks later to find the persistence of psychiatric symptoms and assess the quality of illness by Hamilton Depression rating Scale and Brief Psychiatric Rating Scale.

Semi structured interview was used to elicit data regarding sociodemographic variables like age, religion, preference to any sex of the

baby, type of marriage, quality of marital relationship, spouse habits, spouse occupation, type of family and family history of illness & data regarding available social support.

Obstetric History elicited include number of living children, information about previous abortion, preterm delivery, IUD and neonatal death. Details of current pregnancy including AN visit, mode of delivery, sex of baby, baby condition at birth are elicited.

General Physical parameters including height, weight, hemoglobin and blood pressure were checked (severe anemia and severe PIH are excluded from study).

At 2 -3 weeks after birth, mothers were given Hamilton depression rating scale for the detection of depression and Brief Psychiatric rating scale to detect psychosis. Quality of depression was assessed and the patient referred to Psychiatric department.

OBSERVATION & RESULTS

TABLE 1
PREVALENCE OF PSYCHIATRIC MORBIDITY

Total No. of Patients 480	
Patients without psychiatric Morbidity	**Patients with psychiatric Morbidity**
424	56
88.3%	11.7%

Prevalence of PPD & PPP	
PPD	**PPP**
52	4
10.8%	0.8%

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TABLE - 2

AGE DISTRIBUTION

Among 56 patients with psychiatric sequelae majority were (37.5%) belonging to 21-25 years.

Age	N	%	PPD	PPP	%	Total
15-20 Yr	80	18.9	17	1	32.1	98
21-25 Yr	229	54.0	19	2	37.5	250
26-30 Yr	93	21.9	13	1	25.0	107
31-35 Yr	22	5.2	3	0	5.4	25
> 35 Yr	0	0	0	0	0	0
Grand Total	424	100	52	4	100	480

Chi-square value 7.069

'P' value 0.07

There was no significant statistical difference among age distribution in PN mother with psychiatric sequalae.

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TABLE – 3

HEIGHT

Height	N	%	PPD	PPP	%	Total
< 140 cm	5	1.2	3	0	5.4	8
140-150 cm	227	53.5	26	1	48.2	254
> 150 cm	192	45.3	23	3	46.4	218
Grand Total	424	100	52	4	100	480

Chi-square value 5.45

'P' value 0.065

There was no significant statistical difference between heights in mental illness.

TABLE - 4
WEIGHT

Weight(BMI) kg/m^2	N	%	PPD	PPP	%	Total
18-24.9	292	68.9	43	2	80.4	337
25– 29.9	104	24.5	4	2	10.7	110
> 30	28	6.6	5	0	8.9	33
Grand Total	424	100	52	4	100	480

Chi- square value 5.43

'P' value 0.065

There was no significant statistical difference between weights in mental illness.

TABLE - 5

Hb status

Among the 56 patients (55.4%) belonging to mild anemic group.

Hb Status	N	%	PPD	PPP	%	Total
8-10gm	211	49.8	29	2	55.4	242
>10gm	213	50.2	23	2	44.6	238
Grand Total	424	100	52	4	100	480

Chi-square value 0.619

'P' value 0.431

There was no significant statistical difference between mild anemic status & normal Hb status in psychiatric sequalae.

TABLE – 6

Blood pressure

Majority of patients (85.7%) had normal Blood Pressure.

BP	N	%	PPD	PPP	%	Total
Normal	394	92.9	44	4	85.7	442
Mild PIH	30	7.1	8	0	14.3	38
Grand Total	424	100	52	4	100	480

Chi-square value 3.527

'P' value 0.06

There was no significant statistical difference between normal blood pressure and mild PIH in Psychiatric Sequalae.

TABLE - 7

RELIGION

Hinduism constitute a highest percentage (78.6%) among the psychiatric morbidity group.

Religion	N	%	PPD	PPP	%	Total
Hindu	367	86.6	40	4	78.6	411
Christian	31	7.3	8	0	14.3	39
Muslim	26	6.1	4	0	7.1	30
Grand Total	424	100	52	4	100	480

Chi- square value 3.41

'P' value 0.181

There was no significant statistical difference among religion in psychiatric morbidity.

TABLE - 8

AN Visit

Majority of patients (75%) belongs to booked group.

AN visit	N	%	PPD	PPP	%	Total
Booked	402	94.8	41	1	75	444
Unbooked	22	5.2	11	3	25	36
Grand Total	424	100	52	4	100	480

Chi-square value 27.98

'P' value < 0.001

There was significant statistical difference between AN booking in psychiatric morbidity.

ANTENATAL VISIT

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TABLE – 9

Gravida

Among the patients with psychiatric sequalae group majority (62.5%) were Primi gravida.

Gravida	N	%	PPD	PPP	%	Total
Primi	230	54.2	33	2	62.5	265
Second	134	31.6	11	2	23.2	147
Third	51	12.0	6	0	10.7	57
Fourth	3	0.7	2	0	3.6	5
Five & above	6	1.4	0	0	0	6
Grand Total	424	100	52	4	100	480

Chi- square value 6.51

'P' value 0.164

There was no significant statistical differences among gravida in psychiatric morbidity.

TABLE - 10

Previous Obstetric History

Among the psychiatric sequalae group 33.9% had previous bad obstetric history.

Obstetric History	N	%	PPD	PPP	%	Total
Nil	361	85.1	33	4	66.1	398
Abortion	35	8.3	4	0	7.1	39
Preterm	11	2.6	5	0	8.9	16
Borndead	8	1.9	6	0	10.7	14
Neonatal Death	9	2.1	4	0	7.1	13
Grand Total	424	100	52	4	100	480

Chi-square value 26.018

'P'value < 0.001

There was significant statistical difference between prior normal and bad obstetric history in psychiatric morbidity.

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TABLE – 11

Mode Of Delivery

Among the patients with psychiatric sequalae 75% had normal vaginal delivery.

Mode of Delivery	N	%	PPD	PPP	%	Total
Natural	304	71.7	40	2	75	346
Forceps	13	3.1	4	0	7.1	17
LSCS	107	25.2	8	2	17.9	117
Grand Total	424	100	52	4	100	480

Chi-square value 3.501

'P' value 0.173

There was no significant statistical differences between mode of delivery in psychiatric sequalae.

TABLE - 12

Sex of Baby

Among the patients with psychiatric sequalae (58.9%) had female baby.

Sex	N	%	PPD	PPP	%	Total
Male	208	49.1	20	3	41.1	231
Female	216	50.9	32	1	58.9	249
Grand Total	424	100	52	4	100	480

Chi-square value 1.26

'P' value 0.261

There was no significant statistical differences between sex of baby in psychiatric morbidity.

TABLE - 13

Baby condition at birth

Majority of patients (87.5%) had normal baby condition at birth.

Baby condn at Birth	N	%	PPD	PPP	%	Total
Live birth	387	91.3	46	3	87.5	436
Dead born	12	2.8	2	0	3.63	14
Macerated	3	0.7	0	0	0	3
Specified	1	0.2	0	0	0	1
Admitted in PTU	21	5.0	4	1	8.9	26
Grand Total	424	100	52	4	100	480

Chi-square value 2.14

'P' value 0.71

There was no significant statistical differences between baby condition at birth in psychiatric sequalae.

TABLE – 14

Occupation of spouse

Majority of patients husbands (89.3%) were belong to unskilled workers.

Occupation	N	%	PPD	PPP	%	Total
Non-man skilled	19	4.5	2	0	3.6	21
Manual skilled	72	17.0	3	0	5.4	75
Partial skilled	93	21.9	1	0	1.8	94
Unskilled	240	56.6	46	4	89.3	290
Grand total	424	100	52	4	100	480

Chi-square value 23.37

'P' value 0.001

There was significant statistical differences between occupational status in psychiatric sequalae.

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TABLE – 15

Marital Status

Marital status	N	%	PPD	PPP	%	Total
Married	423	99.8	52	4	100	479
Unmarried	1	0.2	0	0	0	1
Grand total	424	100	52	4	100	480

Chi-square value 0.132

'P' value 0.72

There was no significant statistical differences between marital status in psychiatric morbidity.

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TABLE – 16

Educational status

Majority of patients (87.5%) had their educational status lessthan X std.

Educational status	N	%	PPD	PPP	%	Total
Illiterate	27	6.4	5	1	10.7	33
V std	48	11.3	6	1	12.5	55
VI –X std	275	64.9	34	2	64.3	311
XI-XII std	53	12.5	7	0	12.5	60
Degree	21	5	0	0	0	21
Grand Total	424	100	52	4	100	480

Chi-square value 4.195

'P' value 0.380

There was no significant statistical differences between educational status in psychiatric morbidity.

TABLE - 17

Type of family

Nuclear Family constitute (91.1%) among the psychiatric morbidity group.

Type of family	N	%	PPD	PPP	%	Total
Joint	168	39.6	4	1	8.9	173
Nuclear	256	60.4	48	3	91.1	307
Grand Total	424	100	52	4	100	480

Chi-square value 20.227

'P' value <0.001

There was significant statistical differences between type of family in psychiatric morbidity.

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TABLE - 18

Type of marriage

Love marriage constitute 71.4% among the psychiatric morbidity group.

Marriage type	N	%	PPD	PPP	%	Total
Arranged	383	90.3	15	1	28.6	399
Love	41	9.7	37	3	71.4	81
Grand Total	424	100	52	4	100	480

Chi- square value 134.50

'P' value < 0.001

There was significant statistical differences between type of marriage in psychiatric morbidity.

TABLE - 19

Habit of spouse

Habit of Spouse alcoholism & tobacco constitute 58.9 % among the patient with psychiatric Morbidity.

Habit of spouse	N	%	PPD	PPP	%	Total
Normal	304	71.7	22	1	41.1	327
Alcohol	64	15.1	18	1	33.9	83
Tobacco	56	13.2	12	2	25.0	70
Grand Total	424	100	52	4	100	480

Chi-square value 21.675

'P' value < 0.001

There was significant statistical differences between habit of spouse in psychiatric morbidity.

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TABLE – 20

Previous psychiatric illness

Previous H/O psychiatric illness present in 7.1% among the psychiatric Morbidity group.

Previous psychiatric illness	N	%	PPD	PPP	%	Total
Present	2	0.5	3	1	7.1	6
Absent	422	99.5	49	3	92.9	474
Grand Total	424	100	52	4	100	480

Chi-square value 17.83

'P' value < 0.001

There was significant statistical differences between previous psychiatric illness in psychiatric morbidity.

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TABLE – 21

Family history of illness

Family history of illness present in 51.8% among the psychiatric morbidity group.

Family H/o illness	N	%	PPD	PPP	%	Total
Normal	392	92.5	27	0	48.2	419
Alcohol	19	4.5	20	3	41.1	42
Mental illness	3	0.7	3	1	7.1	7
Seizure	7	1.7	0	0	0	7
Suicide	3	0.7	2	0	3.6	5
Grand Total	424	100	52	4	100	480

Chi- square value 105.646

'P' value < 0.001

There was significant statistical differences between family history of illness in psychiatric morbidity.

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DISCUSSION

This is a descriptive study of postpartum psychiatric morbidity at Egmore Maternity Hospital, Chennai. Its objective was to study the prevalence of psychiatric morbidity and evaluate the role of sociodemographic and obstetric and general physical variables with psychiatric morbidity in postnatal mothers.

Now, let us discuss the results of the study with literature background and compare with the hypothesis.

HYPOTHESIS : 1

(The prevalence of psychiatric morbidity is common among the postnatal mothers).

Among postnatal mothers (480 patients) 56 had psychiatric sequelae, accounting for 11.7% of total study population.

HYPOTHESIS : 2

(The prevalence of postpartum depression is common among the postnatal mothers).

Among postnatal mothers (480 patients), 52 patients had depressive episode, accounting for 10.8% of study group.

The above results are in accordance with study of (O" hara and zekowsai 1988). Prevalence of depression is about 10-15% in the 6 month postpartum.

HYPOTHESIS : 3

(The prevalence of postpartum psychosis is not common among the postnatal mothers).

Among postnatal mothers (480 patients), 4 patients had postpartum psychosis accounting for 0.8% of study group.

The above results differ from earlier study by Sutter AL, Bourgeosis et al 1994 in which prevalence of psychosis is 0.2%. Eventhough psychosis is not common among the study group it is higher than the previous study since our institution is tertiary referral centre.

HYPOTHESIS : 4

(The prevalence of psychiatric morbidity depends on socio demographic variable).

1. **Age**

Among 56 patients with psychiatric sequelae most of the patients (37.5%) belong to 21-25 years age group. Chi-square test showed no clinical significance (' P' value – 0.07) between age and psychiatric morbidity.

The above result is not in accordance with the study of Klein & Essex 1995 – Pregnancy has dramatic emotional and psychological consequences for the individual changes which is more common with teenage pregnancy.

2. **Sex of Baby**

Among 56 patients with psychiatric sequelae majority (58.9%) had female baby. Compared to normal patients (50.9%) chi-square test did not

reveal any statistical significance (‘ P’ value – 0.26) between sex of baby in psychiatric morbidity.

The above result is not in accordance with the study of Lee DT, Yip AS 2000 who identified that postnatal depression was more likely if spouse was disappointed with gender of newborn. Majority of patients included in my study belong to primiparous category to whom gender of the baby doesn’t seem to be significant and hence, sex of baby has no significance in my study.

3. **Religion**

Among 56 patients with psychiatric sequelae most of patients (78.6%) were Hindus compared to non psychiatric patients (86.6%). Chi-square test showed no clinical significance (‘P’ value – 0.18) among religions in psychiatric morbidity.

4. **Marital Status**

Among 56 patients with psychiatric sequelae all the patients (100%) were married. Chi-square test showed no statistical significance (‘P’ value 0.72) between the marital status in psychiatric morbidity.

5. **Education**

Among 56 patients with psychiatric sequelae majority (64.3%) had their educational status between 5^{th} to 10^{th} Std. Chi-square test showed no clinical significance (‘P” value 0.38) between educational status in psychiatric morbidity.

The above result is not in accordance with the study of Irfan N, Badar A 2003 who determined the risk factors for postpartum psychological disorders in Hazara division of Pakistan in which majority were illiterates (80%).

6. **Spouse Occupation**

Among 56 patients with psychiatric sequalae majority of patients' husbands were unskilled workers (89.3%)". There is statistical significance between spouse occupations in psychiatric morbidity with a 'P' value of less than .001. The above results are in accordance with the study of Owoeye AO, Aina OF 2006, who found the risk factor for PPD were mainly unwanted pregnancy, unemployment and marital conflict. Since, majority of my study group belong to low socio economic status.

7. **Type of Marriage**

Among 56 patients with psychiatric sequalae majority of patients (71.4%) had love marriage. There was statistical significance between type of marriage in psychiatric morbidity with a ' P' value of less than 0.001.

The above results are in accordance with the study of Hoyen SD, Bondevik GT 2007, who showed that the depression was strongly associated with husband's alcoholism, polygamy and previous depression. There was non significant trend of lower depressive score among the women living in arranged marriage and traditional family structure. According to my study women who get married without family support seem to be affected by increased psychiatric morbidity.

8. **Type of Family**

Among the 56 patients with psychiatric sequelae, majority of them (91.1%) are living in nuclear family. There was significant statistical difference between the type of families in psychiatric morbidity with the 'P' value of less than 0.001. The above results is in accordance with the study of Hoyen SD, Bondevik GT 2007. My study denotes increased morbidity in nuclear family due to lack of emotional sharing and increased stress towards baby care.

9. **Habit of Spouse**

Among 56 patients with psychiatric sequalae majority of the patients' husbands (58.9%) are alcoholics and smokers. There was significant statistical difference between the habits of spouse in psychiatric morbidity with the 'P' value of < 0.001. The above results goes in accordance with the study of Hoyen SD, Bondevik GT 2007**.** Since, there will be an obvious decrease in husband's care who is an alcoholic or smoker will have increased risk.

10. Family History of Illness

Among the 56 patients with psychiatric sequalae (51.8%) had family history of alcoholism, mental illness, seizure and suicide. There was significant statistical difference between family history of illness in psychiatric morbidity with the ' P' value of < 0.001. The above results are in accordance with the study of Kumar 1982, Kitamura et al – 1993, who suggested that mental disorders are more common in pregnant women having personal or family history of depressive disorders.

11. Previous Psychiatric Illness

Among 56 patients with psychiatric sequalae (7.1%) had previous history of psychiatric illness compared to (0.5%) in normal patients. There was significant statistical difference between previous psychiatric illness in psychiatric morbidity with the 'P' value < 0.001. The above results are in accordance with the study of Bell AJ, Land NM 1994. In that past psychiatric illness was confirmed as important prognostic indicator in postpartum illness.

HYPOTHESIS : 5

(Prevalence of psychiatric morbidity depends on the obstetric variables like Gravida, Previous Obstetric history and mode of delivery)

1. **Gravida**

Among 56 patients with psychiatric sequalae majority (62.5%) were primigravida but there was no significant statistical difference among the gravida in psychiatric illness with 'P' value of 0.164.

The above results are not in accordance with the study of Blackmore ER, Jones I et al, which provides association between primiparity and puerperal psychosis.

2. **AN visit**

Among 56 patients with psychiatric sequalae 25% belongs to unbooked group compared to 5.2 % in normal patients, which has significant statistical difference between AN booking in psychiatric illness with ' P' value < 0.001.

3. **Previous Obstetric History**:

Among 56 patients with psychiatric sequalae 33.9% had previous bad obstetric history. There was significant statistical difference between prior normal and bad obstetric history in psychiatric morbidity with 'P' value of < 0.001. The above results are in accordance with the study of Bergent A, Nguyen T 1998. In that previous abortion, elevated pregnancy risk, low birth weight of new born and caesarian section had significant influence.

4. Mode of Delivery

Among 56 patients with psychiatric sequalae 75% had normal vaginal delivery. There was no significant statistical difference among the mode of delivery in psychiatric illness with 'P' value of 0.173. The above results are not in accordance with the study of Bergent A, Nguyen T 1998.

HYPOTHESIS 6

(Prevalence of psychiatric morbidity doesn't depend on the obstetric variable like baby's condition at birth)

Among 56 patients with psychiatric sequalae 87.5% had normal baby condition at birth. There was no significant statistical difference between baby's condition at birth in psychiatric sequalae with 'P' value of 0.71.

The above results are in accordance with the study of Hand IL, Noble L 2006, who didn't report higher psychiatric symptomatology in mother's whose infants were admitted in neonatal ICU.

HYPOTHESIS 7:

(Prevalence of psychiatric morbidity depends on the general physical variable like obesity)

Among 56 patients with psychiatric sequalae 8.9% had their BMI more than 30 kg/m^2. There was no significant statistical different among weight in psychiatric morbidity with 'P' value of 0.065.

The above results are not in accordance with the study of Kac G, Silveira EA et al 2006, who concluded that low income and obesity were potentially associated with minor psychiatric morbidity.

HYPOTHESIS 8

(Prevalence of psychiatric morbidity doesn't depend on the general physical variables like height (short stature), Hb status (mild anaemia), blood pressure (mild PIH))

1. **Height**:

Among 56 patients with psychiatric sequalae only 5.4% belong to less than 140 cms. There was no significant statistical difference between heights in psychiatric morbidity.

2. **Hb Status**:

Among 56 patients in psychiatric sequalae 55.4% belong to mild anemic group compared to 49.8% in normal patients. There was no significant statistical difference between normal Hb status and mild anemic status in psychiatric sequalae with 'P' value of 0.43

3. Blood Pressure:

Among 56 patients in psychiatric sequalae 14.3% had mild PIH compared to 7.1% in normal patients. There was no significant statistical difference between normotensive and mild PIH in psychiatric morbidity with 'P' value of 0.006.

SUMMARY

The present study is an attempt to find out the incidence of Psychiatric sequalae among the post natal mothers and to study the influence of socio demographic, obstetric, general physical variable with psychiatric morbidity. The sample in this study consisted of 500 postnatal mother out of which 20 patients did not come for followup. Among 480 patients 56 (11.7%) cases had psychiatric morbidity among which 52 (10.8%) had postpartum depression, 4 (0.8%) had postpartum psychosis.

Among 56 patients with psychiatric morbidity various sociodemographic, obstetric and general physical variables were analysed for statistical significance.

Among the socio demographic variables Age, sex of baby, religion, marital status and education status had no significance in influencing psychiatric morbidity.

In occupation of spouse unskilled group found to be more affected due to poverty, low socioeconomic status and low literacy. In the Habit of spouse, Husband's alcoholism and smoking will increase the violence against women, marital conflict and financial burden for delivery and Infant care which will definitely increase the risk. There is increase of morbidity in love marriage and nuclear family system due to lack of parental and social support. Previous psychiatric illness and family H/O alcoholism and mental illness were found to influence the present morbidity.

Among the obstetric variables Gravida, mode of delivery, baby condition at birth had no significant influence.

There seems to be an increased morbidity in unbooked group due to lack of physical and mental care.

In previous obstetric history dead born and preterm delivery has significant influence.

Among general physical variable height, weight, mild anemic status, mild PIH had no significant influence.

CONCLUSION

In my study I conclude that prevalence of psychiatric morbidity which is significant problem to postnatal mothers it needs proper attention and focus. To reduce and prevent the morbidity, Antenatal mothers with high risk for psychiatric morbidity should be identified at right stage, in an clinic and given proper focus in terms of counseling and education to mother, husband and to the family to alleviate forthcoming stress in her confinement.

All postnatal mothers should be routinely screened for psychiatric morbidity with a standardized rating scale which will make possible to diagnose and treat this at the earliest which will bring forth the healthy child and healthy mother to society.

Optimally the obstetrician should have an established screening and referral process for new mothers to enhance the detection and treatment of psychiatric morbidity.

BIBLIOGRAPHY

01. Agrawal P, Bhatia MS et al 1997 a clinical study of Postpartum psychosis Int J. Soc. Psychiatry 43 (3): 217-222

02. Bell AJ, Land NM et al 1994: long term outcome of postpartum psychiatric illness requiring admission – J Affect Disord 31 (1): 67-70

03. Bergant A, Nguyen T et al 1998; prevalence of depressive disorders in early puerperium; Gynakol Geburtshilfliche Rundsch 38(4): 232-237

04. Blackmore ER, Jones I et al 2006: Obstetric variables associated with bipolar affective puerperal psychosis; British Journal of Psychiatry 188: 32-36

05. Bloch M, RotenbergN 2006: Riskfactors for early postpartum depressive symptoms Gen. Hosp. Psychiatry (1): 3-8 related article

06. Bluglass R 1978- Infanticide, Bulletin of Royal College of Psychiatrist 8 : 130 – 141

07. Boyce P, HickeyA 2005 Psychosocial risk factors to major depression after child birth soc psychiatry epidemiology 2005 (40) 8: 605-612

08. Burger and colleague 1993 psychological sequelae of medical complication during pregnancy 91: 566, 1993

09. Cox JL, Holden JM, Sagovsky R 1987, detection of postnatal depression, development of 10 item Edinburgh postnatal depression scale British Journal of Psychiatry 150: 782-786

10. Deakin JF W 1988 prevalence of harmone – CNS interaction to psychological changes in puerperium – In Kumar R, Brockington IF (eds) motherhood and mental illness Wright, London

11. Dowlatashi D, Pajkel ES 1990 life events and social stress in puerperal psychosis absence of effect. Psychological medicine 20 (655-662)

12. Got lib IH, Whiffen VE Mount JH et al 1989 – Prevalence rates and demographic characteristics associated with depression in pregnancy and postpartum Journal of consulting and clinical psychology 57: 269-274

13. Gregoire AJP, Kumar R et al : A controlled trial of transdermal oestrogen theraphy for postnatal depression; Lancet 1995; 347:930-933

14. Hamilton M. " Development of a rating scale for primary depressive illness; Br. J. Soc. Clin. Psychol 1967/6 (4): 278-296

15. Hand IL, Noble L 2006; Psychiatric symptoms among postpartum women in an urban hospital setting Am. J. Perinatology 23 (6): 329-334

16. Harris B, Lovette L, Smith J et al puerperal mood and Hormone study III Br J Psychiatry 1976; 128:379-383

17. Harris B 1993 A Hormonal component of postnatal depression, British Journal of Psychiatry 163: 403-405

18. Hopker SW, Brockington IF psychosis following Hydatiform mole in a patient with recurrent puerperal psychosis. British Journal of Psychiatry 1991, 158: 122-123

19. HOYen SD, Bondevik GT et al 2007; Factors associated with depressive symptoms among postnatal women in Nepal; Acta obstet Gynecol scand. 86(3): 291-297

20. Hung ch 2007 Kaohsiung Journal Medical Science 2007; psychosocial features at different periods after child berth (3): 160

21. Irfan N, Badar A 2003; determinants and patter of postpartum psychological disorders in Hazara division of Pakistan; J Ayub Med Coll Abbottabad 15 (3); 19-23

22. ItoS, Blajchman A, Stephenson M et al 1993; prospective follow up of adverse reaction in Breastfed infants exposed to maternal medication. American Journal of Obstetrics & Gynaecology 168: 1393-1399

23. Kac G, Silveira EA et al 2006; Factors associated with minor psychiatric disorders among women selected from a health care encter in Riode Janeiro, Brazil; cad saude publica, 22 (5); 999 – 1007

24. Kaplan and Sadock's; synopsis of psychiatry 2003, 9th edition

25. Kennerley H, Gath D 1989 maternity blues association with obstetric, psychological and psychiatric factors. British Journal of Psychiatry 155: 367-373

26. Kitamura T, shima S, suagawara M et al 1993 psychological and social correlates of the onset of affective disorders among pregnant women. Psychological medicine 23 : 967-975

27. Klein MH, Essex MJ 1995 Pregnant or depressed, the effect of overlap between symptoms of depression and somatic complaints of pregnancy on rates of major depression in the second trimester 2 : 308-314

28. Kumar R 1982 Neurotic disorders in child bearing women. In: Brockington IF, Kumar R (eds) motherhood and mental illness Academic Press, London

29. Kumar R, Marks M, Plat ZC, Yoshida K 1995 clinical survey of a psychiatri mother and baby unit characteristic of 100 consequent admission Journal of affective disorder 33: 11-22

30. Lee DT, Yip AS et al 2000: identifying women at risk of postnatal depression: Hongkong medical journal 6 (4): 349-354

31. Leung SS, Martinson IM et al 2005 postpartum depression and related psychosocial variable in Hong Kong Chinese women. Res. Nurs Health 28 (1): 27-38

32. Logsdon MC, USui W 2001 psychosocial predictors of postpartum depression in diverse groups of women west. J Nurs Res 2001 23 (6): 563-574

33. Michael G. Gender et al, New Oxford Text book of psychiatry 2003, 2; 1162-63

34. Murray L 1992. The impact of postnatal depression on Infant development Journal of child psychology and psychiatry 33; 543-561

35. Nager A, Johansson LM 2006 – A Neighbourhood socio economic environment and risk of postpartum psychosis arch womens mental health (2): 81-6

36. O" Hara MW, Zekowski EM 1988 post partum depression, a comprehensive review , In Kumar R, Brockington IF (eds) motherhood and mental illness II Butterworth, London

37. O" Neill T, Murphy P et al 1990. Postnatal depression – aetiological factors. Ir Med. Journal 83(1); 17-18

38. Owoeye AO, Aina OF et al 2006: Risk factors of postpartum depression and EPDS score in a group of Nigerian woman:, Trop doct. 36 (2): 100-103

39. Pederson CA, Stern RA Plate' J et al 1993 thyroid and adrenal measures during the late pregnancy and the puerperium in women who have been major depressed on who become dysphoric postpartum. Journal of affective disorders 29: 201-211

40. Pitt B 1968 Atypical depression following childbirth. British Journal of Psychiatry 114: 1325-1335

41. Pilgrim C, Hutchinson JB Developmental regulation of sex differences in the brain. Can the role of gonadal steroids be redefined ?, Neuroscience 1994; 60: 83-85

42. PlatZC, Kendell RE 1988 matched control follow up and family study of puerperal psychosis. British Journal of Psychiatry 153: 90-94

43. Sutter AL, Bourgeosis M 1994; emotional and psychiatric postpartum complication; contracept Fertil sex , 22 (1) : 61-4

44. Tunis and Golbus 1991: Assessing mood states in pregnancy. Obstetric & Gynaecology survey 46: 340

45. Weissman MM and, Olfson M, Depression in Women; implication for health care research science 269: 799, 1995

46. Wieck A, Kumar R, Hirst AD et al 1991 increased sensitivity of dopamine receptors and recurrence of afftective psychosis after child birth. British Medical Journal 303: 613-616

47. Williams 21st edition 1419 – 1424

48. Wisner KL, wheelers B 1994: prevention of recurrent post partum major depression; Hospital and community psychiatry 45; 1191-1196

49. World Health Organization, Geneva; The ICD-10 classification of mental and Behavioral disorders – Clinical description and diagnostic guidelines; 1992

50. Yun Y, Phillips LJ 2005 obstetric complication and transition to psychosis in an " ultra" high risk sample Aust NZJ psychiatry 39 (6); 1460 – 6

PROFORMA

1. Name
2. Age (years)
3. Religion (Hindu/Christian/Muslim)
4. Marital Status (Married/unmarried/divorced/separated)
5. Types of Marriage (Arranged/love)
6. Educational Status (Illiterate/upto Vth Std/VI Std to X Std/HSC/Graduate)
7. Gravida
8. Period of Gestation
9. Previous obstetric History
10. Mode of delivery
11. Baby condition at birth (LB/DB/macerated/specify)
12. Sex of baby (male/female)
13. Occupation of Spouse (Professional/Im occupation/non manual skilled / manual skilled/ partial skilled/ unskilled)
14. Marital Life (Harmonius / not harmonius)
15. Social relation of patient (good/not good)
16. Religiosity (normal/high/nil)
17. Type of family (joint family/ nuclear family)

18. Previous Psychiatric illness (present/absent)
19. Family History of illness (Alcoholism/mental illness/seizure/suicide/drug addiction)
20. Physical examination (height/weight)
21. Clinical examination (BP & Hb)
22. Mental status examination
23. ICD-10 Diagnostic criteria
24. Hamilton Depression Rating Scale
25. Brief Psychiatric Rating Scale

ANNEXURE - I

HAMILTON PSYCHIATRIC RATING SCALE FOR DEPRESSION

- The total Hamilton Depression (HAM-D) Rating Scale provides and indication of depression and overtime provide valuable guide to progress.

- Classification of symptoms which may be difficult to obtain can be suggested as

  O - absent 1 – doubtful or trivial 2 – present

- Classification of symptoms where more detail can be obtained can be expands to

  O - absent 1 – mild 2 – moderate 3 – severe 4 – meapacitatory

***** In general higher the total score more severe the depression

- HAM-D score level of depression

  < 8 – normal, 8-13 - mild, 14-18 – moderate, > 18 - severe

*** Assessment is recommended at 2 weekly interval on the following basis:**

01. Depressed Mood (sadness, hopeless, helpless, worthless)

0 = Absent
1 = These feeling states indicated only on questioning
2 = These feeling states spontaneously reported verbally
3 = Communicates feeling states nonverbally (ie, through facial expression, posture, voice and tendency to weep)
4 = Patients reports virtually only these feeling states in his spontaneous verbal and nonverbal communication

02. Feelings of Guilt

0 = Absent
1 = self-reproach, feels he has let people down
2 = ideas of guilt or rumination over past errors or sinful deeds
3 = Present illness is a punishment delusion of guilt
4 = Hears accusatory or denunciatory voices and/or experiences threatening visual hallucinations.

03. Suicide

0 = Absent
1 = Feels life is not worth living
2 = Wishes he were dead or any thoughts of possible death to self
3 = Suicide ideas or gesture
4 = Attempts at suicide (any series attempt rates 4)

04. Insomnia Early

0 = No difficult falling asleep
1 = Complains of occasional difficult falling asleep (eg. More than 30 minutes)
2 = Complains of nightly difficulty falling asleep

05. Insomnia Middle

0 = No difficulty
1 = Patients complains of being restless and disturbed during the night
2 = Waking during the night – any getting out of bed rates 2 (except for purposes of voiding)

06. Insomnia Late

0 = No difficulty
1 = Waking in early hours of the morning but goes back to sleep
2 = Unable to fall asleep again if he gets out of bed

07. Work and Activities

0 = No difficulty
1 = Thoughts and feelings of incapacity, fatigue or weakness related to activities; work or hobbies
2 = Loss of interest in activity; hobbies or work – either directly reported by patient, or indirect in listlessness, indecision and vacillation (feels he has to push self to work or activities)
3 = Decrease in actual time spent in activities or decrease in productivity. In hospital, rate 3 if patient does not spend at least 3 hours daily in activities (hospital job or hobbies) exclusive of ward chores.
4 = Stopped working because of present illness. In hospital, rate 4 if patient engages in no activities except ward chores, or if patient fails to perform ward chores unassisted.

08. Retardation (slowness of thought and speech; Impaired ability to concentrate; decreased motor activity)

0 = Normal speech and thought
1 = Slight retardation at interview
2 = Obvious retardation at interview
3 = Interview difficult
4 = Complete stupor

09. Agitation

0 = None
1 = Fidgetiness
2 = Playing with hands, hair etc.
3 = Moving about, can't sit still
4 = Hand wringing, nail biting, hair-pulling, biting of lips

10. Anxiety Psychic

0 = No difficulty
1 = Subjective tension and irritability
2 = Worrying about minor matters
3 = Apprehensive attitude apparent in face or speech
4 = Fears expressed without questioning

11. Anxiety Somatic

0 = Absent
1 = Mild
2 = Moderate
3 = Severe
4 = Incapacitating

Physiological concomitants of anxiety (eg. Dry mouth, wind, indigestion, diarrhea, cramps, belching, palpitations, headaches, hyperventilation, sighing, urinary frequency, sweating)

12. Somatic Symptoms - Gastrointestinal

0 = None
1 = Loss of appetite but eating without staff encouragement; heavy feelings in abdomen
2 = Difficulty eating without staff urging; requests or requires laxatives or medication for bowels or medication for GI symptoms

13. Somatic Symptoms - General

0 = None

1 = Heaviness in limbs, back, or head; backaches, headache, muscle aches; loss of energy and fatigability
2 = Any clear-cut symptom rates 2

14. Somatic Symptoms (loss of libido, menstrual disturbance)

0 = Absent
1 = Mild
2 = Severe

15. Hypochondriasis

0 = Not present
1 = Self-absorption (bodily)
2 = Preoccupation with health
3 = Frequent complaints, requests for help, etc.
4 = Hypochondriacal delusions

16. Loss of Weight (rate either A or B)

When rating by history:

0 = No weight loss
1 = Probable weight loss associated with present illness
2 = Definite (according to patient) weight loss
3 = Not assessed

On weekly ratings by ward psychiatrist, when actual weight changes are measured:

0 = Less than 1 lb weight loss in week
1 = Greater than 1 lb weight loss in week
2 = Greater that 2 lb weight loss in week
3 = Not assessed

17. Insight

0 = Acknowledges being depressed and ill
1 = acknowledges illness but attributes cause to bad food, climate, overwork, virus, need for rest, etc.
2 = Denies being ill at all

ANNEXURE - II

THE BRIEF PSYCHIATRIC RATING SCALE (BPRS)

This form consists of 18 symptom constructs, each to be rated on a 7 point scale of severity, ranging from “not present” to “extremely severe”. If a specific symptom is not rated, mark “0”= Not Assessed. Enter the score for the description which best describes the patient’s condition.

0 = not assessed

1 = not present

2 = very mild

3 = mild

4 = moderate

5 = moderately severe

6 = severe

7 = extremely severe

1. Somatic Concern

Degree of concern over present bodily health, Rate the degree to which physical health is perceived as a problem by the patient, whether complaints have a realistic basis or not.

2. Anxiety

Worry, fear, or over concern for present or future. Rate solely on the basis of verbal report of patient’s own subjective experiences. Do not infer anxiety from physical signs or from neurotic defense mechanisms.

3. Emotional Withdrawal

Deficiency in relating to the interviewer and to the interviewer situation. Rate only the degree to which the patient gives the impression of failing to be in emotional contact with other people in the interview situation.

4. Conceptual disorganization

Degree to which the thought processes are confused, disconnected, or disorganized. Rate on the basis or integration of the verbal products of the patient; do not rate on the basis of patient's subjective impression of his own level of functioning.

5. Guilt Feelings

Over concern or remorse for past behavior. Rate on the basis of the patient's subjective experiences of guilt as evidenced by verbal report with appropriate affect; do not infer guilt feelings from depression, anxiety, or neurotic defenses.

6. Tension

Physical and motor manifestations of tension, nervousness, and heightened activation level. Tension should be rated solely on the basis of physical signs and motor behavior and not on the basis of subjective experiences of tension reported by the patient.

7. Mannerisms and Posturing

Unusual and unnatural motor behavior, the type of motor behavior which causes certain mental patients to stand out in a crowd of normal people. Rate only abnormality of movements; do not rate simple heightened motor activity here.

8. Grandiosity

Exaggerated self-opinion, conviction of unusual ability or powers. Rate only on the basis of patient's statements about himself or self in relation to others, not on the basis of his demeanor in the interview situation.

9.Depressive Mood

Despondency in mood, sadness. Rate only degree of despondency; do not rate on the basis of inferences concerning depression based upon general retardation and somatic complaints.

10. Hostility

Animosity, contempt, belligerence, disdain for other people outside the interview situation. Rate solely on the basis of the verbal report of feelings and actions of the patient toward others; do not infer hostility from neurotic defenses, anxiety, nor somatic complaints. Rate attitude toward interviewer under " uncooperativeness".

11. Suspiciousness

Belief, delusional or otherwise, that others have now or have had in the past, malicious or discriminatory intent toward the patient. On the basis of verbal report, rate only those suspicions which are currently held whether they concern past or present circumstances.

12. Hallucinatory Behavior

Perceptions without normal external stimulus correspondence. Rate only those experiences which are reported to have occurred within the last week and which are described as distinctly different from the thought and imagery processes of normal people.

13. **Motor retardation**

Reduction in energy level evidenced by slowed movements. Rate on the basis of observed behavior of the patient only; do not rate on the basis of patient's subjective impression of own energy level.

14. Uncooperativeness

Evidence of resistance, unfriendliness, resentment, and lack of readiness to cooperate with interviewer. Rate only on the basis of the patient's attitude and responses to the interviewer, and interview situation; do not rate on the basis of reported resentment or uncooperativeness outside the interview situation.

15. Unusual Thought Content

Unusual, odd, strange, or bizarre thought content. Rate here the degree of unusualness, not the degree of disorganization of thought processes.

16. Blunted Affect

Reduced emotional tone, apparent lack of normal feeling or involvement.

17. Excitement

Heightened emotional tone, agitation, increased reactivity.

18. Disorientation:

Confusion or lack of proper association for person, place, or time.

ABBREVIATION

N	-	Normal
PPD	-	Postpartum Depression
PPP	-	Postpartum Psychosis
ICD	-	International Statistical Classification of Diseases
DSM	-	Diagnostic and Statistical Manual of Mental Disorders
HDRS	-	Hamilton Depression Rating Scale
BPRS	-	Brief Psychiatric Rating Scale

KEY TO MASTER CHART

1. Age

1. 15-20 year
2. 21-25 year
3. 26-30 year
4. 31-35 year
5. > 35 year

2. Height

1. < 140 cm
2. 140-150 cm
3. > 150 cm

3. Weight (BMI)

1. 18-24.9 kg/m^2
2. 25-25.9 kg/m^2
3. > 30 kg/m^2

4. Hb status

1. 8-10 gm
2. > 10gm

5. Blood Pressure

1. Normal
2. Mild PIH

6. Religion

1. Hindu
2. Christian
3. Muslim

7. AN Visit

1. Booked
2. Unbooked

8. Gravida

1. Primi
2. Second
3. Third

4. Fourth
5. Fifth and above

9. Previous obstetric History

1. Nil
2. Abortion
3. Preterm
4. Born dead
5. Neonatal death
6. Congenital anomalies

10. Mode of delivery

1. Lab natural
2. Forceps
3. LSCS

11. **Sex of Baby**

1. Male
2. Female

12. Baby condition at birth

1. Livebirth
2. dead born
3. macerated
4. specify
5. baby admitted in PTU

13. Occupation of spouse

1. Professional
2. Intermediate occupation
3. Nonmanual skilled
4. Manual skilled
5. Partial skilled
6. unskilled

14. Marital Status

1. Married
2. Unmarried
3. Widow
4. Divorced
5. Separated
6. Extramarital status

15. Educational Status

1. Illiterate
2. 1-5th Std
3. 6-10th Std
4. HSC
5. Graduate

16. Type of Family

1. Joint Family
2. Nuclear Family

17. Type of Marriage

1. Arranged Marriage
2. Love Marriage

18. Habit of spouse

0 - Nil
1. Alchohol
2. Ganja
3. Opium
4. Tobacco

19. Previous psychiatric illness

1. Present
2. absent

20. Family History of illness

0 - Nil
1 - Alcoholism
2 - Mental illness
3 - Seizure
4 - Suicide
5 - Drug addiction

21. Psychiatric sequelae

1. Normal
2. Postpartum depression
3. Postpartum psychosis

(NA – Not assessed)